



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/927,891	08/10/2001	Jim Feeley	59184/P002US/10026564	4788

29053 7590 04/29/2005

DALLAS OFFICE OF FULBRIGHT & JAWORSKI L.L.P.
2200 ROSS AVENUE
SUITE 2800
DALLAS, TX 75201-2784

EXAMINER

ENSEY, BRIAN

ART UNIT

PAPER NUMBER

2643

DATE MAILED: 04/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/927,891

Applicant(s)

FEELEY ET AL.

Examiner

Brian Ensey

Art Unit

2643

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21, 30-40, 45-52 and 54-60 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21, 30-40, 45-52 and 54-60 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

The declaration filed on 11/24/04 under 37 CFR 1.131 is sufficient to overcome the Halteren reference.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toht U.S. Patent No. 2,930,856 in view of Shennib et al. U.S. Patent No. 5,701,348.

Regarding claim 1, Toht discloses an earpiece auditory device comprising: a behind-the-ear (BTE) component (1), the BTE component being shaped to fit behind an ear of a user, wherein said BTE component comprises a module including processing circuitry; a completely-in-canal (CIC) component (2), the CIC component being shaped to fit into the ear canal of the user, wherein said CIC component comprises an ear mold; and a connector physically coupling said BTE component to said CIC component, said connector having at least one end detachably physically coupled to said BTE component or said CIC component (See Figs. 1 and 2 and col. 1, line 38 to col. 2, line 28). Toht does not expressly disclose the CIC component being shaped to fit into the ear canal of the user in such a manner to touch the bony portion of the ear canal of the user. However, Shennib teaches a CIC component of an ear mold being shaped to fit into the ear canal of the user in such a manner to touch the bony portion of the ear canal of the user (See Fig.

Art Unit: 2643

4 and col. 4, lines 45-65). It would have been obvious to one of ordinary skill in the art at the time of the invention to insert the ear mold of Toht into the bony portion of the ear canal to provide the advantages of improved energy efficiency and high frequency response (See Shennib col. 4, lines 66 and 67).

Regarding claim 2, Toht further discloses said completely-in-canal component further comprises a speaker (See Fig. 1 and col. 1, lines 50-53).

Regarding claim 3, Toht further discloses said physically coupling includes communicatively coupling said behind-the-ear component to said completely-in-canal component, and wherein at least one of the at least one detachable physical coupling includes a detachable communicative coupling (See Figs. 1 and col. 1, lines 50-64).

Regarding claim 4, Toht further discloses wherein at least one of the at least one detachable physical coupling is to said behind-the-ear component (See Figs. 1 and col. 1, lines 50-64).

Regarding claim 5, Toht further discloses at least one of the at least one detachable physical coupling is to said completely-in-canal component (See Figs. 1 and col. 1, lines 50-64).

Regarding claim 6, Toht further discloses said connector comprises: at least one wire cable; and at least one fastener physically, as well as communicatively, coupled to said behind-the-ear component or said completely-in-canal component; wherein at least one of said at least one fastener provides at least one of the at least one detachable physical coupling (See Figs. 1 and col. 1, lines 50-64).

Regarding claim 7, Toht further discloses at least one of said at least one fastener is

Art Unit: 2643

operable to prohibit an undesirable external element from interfering with a detachable communicative coupling between said connector and said behind-the-ear component (See Figs. 1 and col. 1, lines 50-64).

Regarding claim 8, Toht further discloses at least one of said at least one fastener is operable to prohibit an undesirable external element from interfering with a detachable communicative coupling between said connector and said completely-in-canal component (See Figs. 1 and col. 1, lines 50-64).

Regarding claim 9, Toht further discloses a hole and prong arrangement for quick and easy assembly and disassembly (See col. 1, lines 62-64).

Regarding claim 10, Toht further discloses a speaker module is detachably physically coupled to said ear mold (See col. 1, lines 50-53).

Regarding claim 11, Toht discloses said completely-in-canal component further includes a speaker receiving member, and wherein said connector includes a speaker fastener detachably physically coupled to said speaker receiving member (See col. 1, lines 50-53).

Regarding claim 12, Toht discloses said speaker is detachably physically coupled to said speaker fastener (See col. 1, lines 50-53).

Regarding claim 13, Toht discloses the detachable physical coupling between said speaker and speaker fastener includes a detachable communicative coupling (See col. 1, lines 50-53).

Regarding claim 14, Halteren further discloses said at least one fastener includes a fastener detachably physically coupled to said module of said behind-the-ear component (See col. 1, lines 50-64).

Regarding claim 15, Halteren further discloses the detachable physical coupling between said fastener and said module includes a detachable communicative coupling (See col. 1, lines 50-64).

Regarding claim 16, Toht does not expressly disclose said ear mold is a universal fit ear.. However, Shennib teaches the ear mold is a universal fit ear mold (See col. 11, lines 65-67 and col. 9, lines 24-60). It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the earmold of Toht with a universal earmold for easy manufacturing and to fit a maximum number of users.

Regarding claim 17, Toht does not expressly disclose said completely-in-canal component is an open mold configuration. However, Toht teaches a receiver mounted in the end of the hearing device connected to an ear mold (See col. 1, lines 49-64). Toht does not limit the configuration of the ear mold and Shennib teaches an ear mold portion for deep insertion into the ear canal with a detachable connector (See Fig. 4 and col. 4, lines 45-65). It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize an open mold configuration for enclosing the receiver in the ear mold unit for a compact comfortable fit.

Regarding claims 18 and 19, Toht further discloses processing circuitry includes sound processing circuitry wherein said sound processing circuitry includes sound amplification circuitry (See col. 1, lines 38-49).

Regarding claim 21, Toht further discloses said behind-the-ear component further includes a microphone (See col. 1, lines 38-49).

Regarding claim 30, Toht does not expressly disclose at least one of the at least one detachable physical coupling includes at least one projection of said connector engaging

Art Unit: 2643

at least one groove of said behind-the-ear component or said completely-in-canal component.

However, Shennib teaches a detachable physical coupling includes at least one projection of said connector engaging at least one groove of said behind-the-ear component or said completely-in-canal component (See Fig. 12).it would have been obvious to one of ordinary skill in the art at the time of the invention to utilize a projection and groove coupler for a secure and easily assembled connection unit.

Regarding claim 31, Halteren discloses an earpiece auditory device comprising: a behind-the-ear (BTE) component (1), the BTE component being shaped to fit behind an ear of a user, said BTE component comprises a module including processing circuitry; a completely-in-canal (CIC) component (2), the CIC component being shaped to fit into the ear canal of the user, said CIC component comprises an ear mold; means for physically coupling said CIC component to said BTE component, wherein said means for physically coupling includes means for detachably physically coupling said CIC component to said BTE component (See Figs. 1 and 2 and col. 1, line 38 to col. 2, line 28). Toht does not expressly disclose the CIC component being shaped to fit into the ear canal of the user in such a manner to touch the bony portion of the ear canal of the user. However, Shennib teaches a CIC component of an ear mold being shaped to fit into the ear canal of the user in such a manner to touch the bony portion of the ear canal of the user (See Fig. 4 and col. 4, lines 45-65). It would have been obvious to one of ordinary skill in the art at the time of the invention to insert the ear mold of Toht into the bony portion of the ear canal to provide the advantages of improved energy efficiency and high frequency response (See Shennib col. 4, lines 66 and 67).

Regarding claim 32, Toht further discloses said completely-in-canal component

further includes a speaker (See Fig. 1 and col. 1, lines 50-53).

Regarding claim 33, Toht further discloses said means for physically coupling includes means for communicatively coupling said behind-the-ear component to said completely-in-canal component, and wherein said means for detachably physically coupling includes means for detachably communicatively coupling said completely-in-canal component to said behind-the-ear component (See Figs. 1 and 2 and col. 1, line 38 to col. 2, line 28).

Regarding claim 34, Toht further discloses said means for detachably physically coupling includes means for detachably physically coupling at said behind-the-ear component (See Figs. 1 and 2 and col. 1, line 38 to col. 2, line 28).

Regarding claim 35, Toht further discloses said means for detachably physically coupling also includes means for detachably physically coupling at said completely-in-canal component (See Figs. 1 and 2 and col. 1, line 38 to col. 2, line 28).

Regarding claim 36, Toht discloses a speaker receiving member and wherein said means for physically coupling includes a speaker fastening means (See col. 1, lines 50-53).

Regarding claim 37, Toht discloses e said means for detachably physically coupling includes means for detachably physically coupling said speaker to said speaker fastening means (See col. 1, lines 50-53).

Regarding claim 38, Toht discloses e said means for detachably physically coupling includes means for detachably physically coupling said speaker fastening means to said speaker receiving member (See col. 1, lines 50-53).

Regarding claim 39, Toht further discloses processing circuitry includes sound processing circuitry (See col. 1, lines 38-49).

Regarding claim 45, Toht discloses a method for providing a plurality of earpiece auditory device components, a portion of which may be assembled to form an earpiece auditory device tailored to a user, said method comprising: providing a plurality of behind-the-ear components from which a behind-the-ear component operable to facilitate the user's intended use for the earpiece auditory device may be selected, wherein each of said behind-the-ear components comprises a module including processing circuitry; and providing a connector of sufficient length to physically couple a selected behind-the-ear component when said selected behind-the-ear component is placed behind the ear of the user to a completely-in-canal component when said completely-in-canal component is placed inside the ear canal of the user, wherein said connector of sufficient length includes at least one end operable to detachably physically couple to said selected behind-the-ear component or said completely-in-canal component, and wherein said completely-in-canal component comprises a speaker (See Figs. 1 and 2 and col. 1, line 38 to col. 2, line 28). Toht does not expressly disclose a plurality of connectors of variable lengths to ensure the CIC component being shaped to fit into the ear canal of the user is in such a manner as to touch the bony portion of the ear canal of the user. However, Shennib teaches a CIC component of an ear mold being shaped to fit into the ear canal of the user in such a manner to touch the bony portion of the ear canal of the user and an adjustable connector that accommodates various canal depths (See Fig. 4, abstract and col. 4, lines 45-65). It would have been obvious to one of ordinary skill in the art at the time of the invention to vary the connector length to insert the ear mold of Toht into the bony portion of the ear canal to provide the advantages of improved energy efficiency and high frequency response for multiple users (See Shennib col. 4, lines 66 and 67).

Regarding claim 46, Toht further discloses a connector of sufficient length is operable to communicatively couple said selected behind-the-ear component to said completely-in-canal component, and wherein at least one of the at least one end of said connector of sufficient length operable to detachably physically couple to said selected behind-the-ear component or said completely-in-canal component is also operable to detachably communicatively couple to said selected behind-the-ear component or said completely-in-canal component (See Figs. 1 and col. 1, lines 49-63).

Regarding claim 47, Toht further discloses said plurality of said behind-the-ear components includes a behind-the-ear component fitting behind the ear of the particular user in such a manner as to be made invisible by the user's ear (See col. 2, lines 3-12).

Regarding claim 49, Toht further discloses said plurality of said BTE components includes at least one BTE component having sound processing circuitry (See Fig. 1 and col. 1, lines 38-49).

Regarding claim 51, Toht further discloses at least one BTE component having sound processing circuitry includes at least two BTE components having different sound processing circuitry. Toht teaches both transistors and an amplifier (See Fig. 1 and col. 1, lines 38-49).

Regarding claim 52, Toht further discloses said behind-the-ear components further includes at least one BTE component having a microphone (See Fig. 1 and col. 1, lines 38-49).

Regarding claim 54, Toht does not expressly disclose providing a plurality of CIC components from which said CIC component may be selected. However, Shennib teaches providing a plurality of CIC components from which said CIC component may be selected (See Figs. 10-18 and col. 9, lines 24-65). It would have been obvious to one of ordinary skill in the art

at the time of the invention to provide the earmold of Toht with multiple selections to fit a wide variety of users.

Regarding claims 55-57, Toht does not expressly disclose providing a plurality of at least one element to be included in said completely-in-canal component, from which at least one of the elements to be included in said completely-in-canal component may be selected, said plurality of at least one element includes at least two ear molds of differing dimensions at least one of which fits the user's ear structure and said plurality of at least one element includes at least one universal fit ear mold. However, Shennib teaches a plurality of at least one element to be included in said completely-in-canal component, from which at least one of the elements to be included in said completely-in-canal component may be selected, said plurality of at least one element includes at least two ear molds of differing dimensions at least one of which fits the user's ear structure and said plurality of at least one element includes at least one universal fit ear mold (See Figs. 10-18 and col. 9, lines 24-65 and col. 11, lines 65-67). It would have been obvious to one of ordinary skill in the art at the time of the invention to provide a plurality of selectable ear molds or a universal earmold to fit a maximum number of users.

Regarding claim 60, Toht further discloses said connector of sufficient length includes at least one wire cable and at least one fastener operable to facilitate a detachable physical coupling (See Fig. 1 and col. 1, line 38 to col. 2, line 28).

Claims 20, 40 and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toht in view of Shennib as applied to claims 1, 31 and 45 above, and further in view of Taenzer et al. U.S Patent No. 6,445,799.

Regarding claims 20, 40 and 50, Toht discloses a hearing device as claimed with signal processing circuitry. That does not expressly disclose sound processing circuitry includes sound reduction circuitry. However, the use of sound reduction circuitry is well known in the hearing aid field and Taenzer teaches sound reduction circuitry (See Figs. 1 and 2 and col. 4, lines 19-48). It would have been obvious to one of ordinary skill in the art at the time of the invention to use sound reduction circuitry for improved quality signals for the user.

Claim 48 is rejected under 35 U.S.C. 103(a) as being unpatentable over Toht in view of Shennib as applied to claim 45 above, and further in view of Rapps U.S Patent No. 6,101,259.

Regarding claim 48, Toht does not expressly disclose said plurality of said BTE components includes at least two behind-the-ear components of different dimensions. However, Halteren does not limit the BTE construction and multi-dimensional BTE housings are well known in the art and Rapps teaches a BTE component of various dimensions (See Fig. 2 and col. 1, lines 45-67). It would have been obvious to one of ordinary skill in the art at the time of the invention to provide a BTE devices with different dimensions to select the device which most comfortably fit a wide variety of users (See abstract).

Claims 58 and 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toht in view of Shennib as applied to claim 45 above, and further in view of Kang et al. U.S Patent No. 5,757,935

Regarding claims 58 and 59, Toht does not expressly disclose said plurality of at least one element includes a plurality of speakers wherein said plurality of speakers includes at least two speakers having different performance characteristics. However, Kang teaches a hearing device for the hearing impaired comprising two speaker with different performance

Art Unit: 2643

characteristics (See Fig. 2 and abstract, air conduction and bone conduction speakers each inherently having its own performance characteristic). It would have been obvious to one of ordinary skill in the art at the time of the invention to use multiple speakers with different performance characteristics to provide a broad range of audio signals to the users (See col. 1, lines 48-62).

Response to Arguments

Applicant's arguments with respect to claims 1-21, 30-40, 45-52 and 53-60 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Ensey whose telephone number is 571-272-7496. The examiner can normally be reached on Monday - Friday 6:30 AM - 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz can be reached on 571-272-7499. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

Or faxed to:

(703) 872-9306, for formal communications intended for entry and for informal or draft communications, please label "PROPOSED" or "DRAFT".


Hand-delivered responses should be brought to: Customer Service Window, Randolph Building, 401 Dulany Street, Arlington, VA 22314

Art Unit: 2643

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BKE

April 26, 2005


CURTIS KUNTZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600